Supreme Court of the United States.

No. 61.—October Term, 1901.

The United States Repair and Guaranty Company, Petitioner, vs. The Assyrian Asphalt Company.	On writ of certiorari to the United States Circuit Court of Appeals for the Seventh Circuit.

[January 6, 1902.]

Mr. Justice McKenna delivered the opinion of the Court.

This suit was originally brought for the infringements of three letters patent issued to the petitioner as assignee of Amos Perkins. The patents were respectively numbered 501,537, 542,349 and 560,599, and were dated respectively 18th July, 1893, 9th July, 1895 and the 19th of May, 1896. The first, 501,537, was for an improved "Method of repairing asphalt pavements;" the other numbers were for "Improvement in apparatus for repairing asphalt pavements."

The bill contained the usual allegations of invention and infringement, and prayed an injunction.

The answer admitted the issue of the patents, but denied that Perkins was the original and first inventor of the subject matter or that the improvements therein disclosed constituted new and useful inventions within the meaning of the patent laws, or that said improvements were not known or used in this country, or had not been patented or described in any printed publication in this or in foreign countries before the alleged invention thereof by Perkins.

The petitioner dismissed the bill as to patent number 542,349. Upon the hearing the Circuit Court sustained the apparatus patent number 560,599, finding that the Assyrian Asphalt Company had infringed upon that apparatus, and ordered an injunction and a reference for an accounting. The Method patent number 501,537 was adjudged invalid, and the court said:

"From the evidence in this suit regarding the prior state of the art, and the argument before me, I find that the term 'asphalt' is not limited in its meaning to the Trinidad deposit, or the so-called 'American mixture,' but includes as well the bituminous paving material used in France and elsewhere, comprising natural rock asphalt and compositions of bitumen and lime or sand particles, and that the claims of the Perkins Method patent are so broad with reference to the application of heat to the repair of asphalt pavements, that they are anticipated by the Crochet patent, and are invalid."

The petitioner took an appeal to the Court of Appeals, and that court affirmed the judgment of the Circuit Court. (.) The case was then brought here by a certiorari.

The proceedings here are only concerned with the Method patent number 501,537. The letters patent describe the invention as follows:

"My invention is designed to produce a method whereby the repairing of asphalt pavements may be quickly and cheaply accomplished and a neater appearing pavement be obtained after repairing than has heretofore been the case.

"Heretofore in the repairing it has been customary to dig out with a pick or other instrument the surface material around the spot to be repaired, sometimes applying heat to the spot to soften the material so that it may be more easily removed. When the material has been removed the depression thus made is thoroughly cleaned and given a coat or dressing of tar. New material in a heated state has then been placed in the depression and been ironed down and smoothed off in the usual manner of finishing, the tar acting as a solder to hold the new material in place. When completed, however, the line or joint between the old hardened material and the new material has been plainly discernible and more often there has been more or less of a ridge. Again this new block of material, by reason of frost or from other causes, is frequently torn loose from its soldered connection with the old material, thus necessitating new repairs. In practicing my invention, however, I subject the spot to be repaired and the surrounding edges to such a degree of heat that the surface asphalt, not only the exact spot to be repaired but the surrounding portion, to a greater or less degree, is reduced to the soft pliable state in which it is originally laid. With a rake or other suitable instrument it is then agitated and mixed with enough new material to fill up the spot to be repaired. It is then subjected to the usual finishing operation of ironing and burnishing. The heating of the surface may be accomplished in various ways and by means of various forms of apparatus, and while I have herein shown but one form for accomplishing the result, yet I would have it understood that I do not limit myself to any particular form of apparatus for carrying out my invention."

The apparatus described consists of a suitable tank mounted on a wheel for carrying gasoline. The tank is connected with a series of horizontal pipes which carry a series of burners, and "project a flame downward against the pavement."

"In carrying out the invention A represents a suitable tank for carrying gasoline mounted on the wheeled frame B and connected by the pipe C with a series of horizontal pipes, D. These pipes D carry a series of burners, E, which pass through a hood or shield, F, and project a flame downward against the pavement. Pressure is then obtained upon the gasoline to force it to the burners and to produce a blast by means of an air pump, G, mounted upon the tank."

The letters patent further say:

"The apparatus is also provided with a handle, H, whereby the operator may readily move it to the desired spot. Now as would be seen by turning on as many of the burners as are desired, a strong blast of heat is pro-

jected against the surface of the asphalt and readily melts it. As explained above, when it is desired to repair a spot the apparatus is moved adjacent thereto with the burners directly above the spot. These soon reduce the surface asphalt, both at the spot and at the surrounding edges, to a pliable state, the strong blast causing not only the immediate surface, but the particles deep down, to be melted and yet not burned. With a rake or other suitable instrument the operator then agitates or stirs up the softened material, and by adding new material of substantially the same degree of softness the spot or depression to be repaired is filled up and subjected to the usual smoothing and finishing operation as in the case of a new pavement. This, as will be seen, is done without the use of the tar for the purpose of uniting the parts or sections of material, and is done without any distinct dividing line between the old and new material. In fact, there is no dividing line, because the new material has been mixed with and becomes a part of the old material. As stated above, while heating the spot to be repaired the surrounding edges or portions must be heated to a greater or less degree, and the new material is worked into these edges as well as in the spot to be repaired, so that when hardened it is practically impossible to tell where the pavement has been repaired.

"What I claim is—

"1. The method of repairing asphalt pavements, which consists in subjecting the spot to be repaired to heat, adding new material and smoothing and burnishing it, substantially as described.

"2. The method of repairing asphalt pavements, which consists in subjecting the spot to be repaired to heat until the material is softened, agitating it and mixing with it new material, and finally smoothing and burnishing it, substantially as described."

Infringement is only asserted of the first claim, and, considering the language of the claim and of the specifications, it seems impossible to escape the conclusion that the invention claimed is for the application of heat to the spot to be repaired. And the patentee did not confine himself to the particular apparatus he described. That, he said, was "one form of accomplishing the result. He would have it understood, he said, that he did not confine himself "to any particular form of apparatus for carrying out" his invention, and the independence of his method from any form of apparatus is brought out by contrast of what had been done and what he proposed to do as an improvement. What had been done was to take out with a pick or other instrument the surface material around the spot to be repaired, sometimes applying heat to the spot to soften the material, so that it might more easily be removed. And the new method he proposed was to subject the spot to be repaired and surrounding edges to such a degree of heat that the surface asphalt, not only the exact spot to be repaired, but the surrounding material, to a greater or less degree, will be reduced to the soft, pliable state in which it was originally laid. Here we have the comparison of the two methods. The old was to take ont the surface material around the spot to be repaired, sometimes applying heat to soften such material. The new method was to

apply heat, not only to the exact spot to be repaired, but the surrounding edges. What, then, was the advantage of the new method? The patent tells us. In the old method the depression made by the removal of material was "thoroughly cleaned and given a coat or dressing of tar." The tar acted as a solder, but the joint between the old and the new material was discernible, and often a ridge was formed, and the adhesion of the materials yielded to frost and other causes. The new method dispenses with the tar and its consequences. It substituted the melting of the surrounding edges, producing a union and coalescing of the old and new material, making a better appearing and more lasting repair. If the method and effect of the patent be different from this, we are unable to discern it from the patent or from the testimony. Indeed, there is no other difference established by the testimony. One of the expert witnesses of the petitioner testified as follows:

"It is further evident that in such use of defendants' device and in the repair of pavements in part by the use of said device by defendants, the use of tar or any other cement or 'solder' is obviated, that the union between the patch of new material and the old pavement is direct, immediate and complete without the intervention of an interposed body of tar or like material, and that the joint need, therefore, present none of the disadvantages, objections or defects in respect either of appearance or of effectiveness, which distinguished the old tar joint and which are obviated by the method here in controversy.

* * * * * *

"There are three steps or process elements enumerated in this claim, to wit: First, 'subjecting the spot to be repaired to heat;' second, 'adding new material;' and third, 'smoothing and burnishing.' These are all performed in the same order by the defendants. The separate steps, are, moreover, essentially the same in kind in defendant's practice, as set forth in the patent. The heat is applied to the spot to be repaired with a flame blast. The new material added is the same in condition and character; it is not tar or any part tar, but is solely the asphalt composition like that of the old pavement, and in the soft condition and heated state in which said composition is and was originally applied. The smoothing and burnishing is the same step in both cases, being the old and familiar operation performed by means of heated metal tamping and smoothing irons long before used in leveling and smoothing original asphalt pavement surfaces."

And he further testified:

"It appears to me to be a feature of the patented method, or a characteristic of the steps of applying the new material, that the new material is placed into direct contact with the old, as if the claim read 'adding new material in direct contact with the old material and smoothing and burnishing it.'"

In other words, the mixing of the old and new material around the edges of the excavation and "adding of new material in direct contact with the old material, smoothing and burnishing it," is the essence of the

invention, and so unqualifiedly is this true that a witness of petitioner testified that if the heat which was applied not only melted, but burned the immediate surface and as well "the particles deep down," and the material thus burned raked away clean before new material was applied, the method of the patent would be followed.

As thus described, was there anything in the art which preceded the Perkins method and took from it the claim of originality and invention? The Circuit Court and the Circuit Court of Appeals found that a patent issued to Paul Crochet, June 11, 1880, in France, had that effect, and we concur in the finding. The process described in the Crochet patent is for the "Preparation and Recharging of Compressed Asphalt Roadways." The following is the specification of the patent:

"When it was designed to repair or recharge a roadway in asphalt with the means which are now at command, the operator generally delimits with a pick the part which is to be replaced and takes therefrom the asphalt; but it is rare that this operation has not for consequence the starting of the adjacent portions which are sound, swelling them up in such wise that at the end of a little while it is necessary to repair them in their turn.

"To avoid this I have designed a process for repairing and recharging asphalt roads which suppresses such inconveniences. It consists in reheating the part to be mended by means of a movable furnace which the operator shifts about at the surface of the roadway until such portion decrepitates and becomes friable. The upper part of the layer of asphalt and that which has been damaged are taken off by means of an iron scraper armed with small teeth, which perform the office of a rake; said scraper in raising the material forms at the same time upon the part remaining numerous striae which render the surface wrinkled and augment the adherence of the additional over-thickness which constitutes the recharge.

"The repeated passage of the movable furnace thereon has equally for its effect to vaporize the water and the humidity which are found in the asphalt pavement at the portion to be repaired or recharged.

"After this preparatory operation, the workman spreads a convenient depth of asphalt in powder-like state and stamps it by the ordinary means; because of the softening of the subjacent layer, said layer solders itself perfectly to the new coat, and forms with it a thickness without break in continuity. Such repair and such recharging do not at all impair the neighboring portions.

"It is clearly evident, besides, that the same work of recharging can be done over the whole surface of a street instead of being done in spots, and that it is independent of the depth of the asphalt layer.

"The heating apparatus which I have arranged for thus effecting the softening the surface of the asphalt roadways is represented on the drawing annexed, in longitudinal and transverse sections, Figs. 1 and 2. It is composed of a box body the sides A, A, B, B, of which are perforated throughout, and the bottom C, whereof is formed a grating, below which there is a metal plate, D, to radiate the heat over the surface of the asphalt. Said plate D is movable to allow for the withdrawal of cinders. The box is mounted upon the wheels E, the axes *o* whereof are adjustable upon supports *a*, the elevation of which in guides *b* can be varied to augment or

diminish the distance of the box to the roadway. A handle, F, serves to manœuver the car over the pavement. This system, especially applicable for streets of compressed asphalt, can be equally employed to repair and recharge streets of bitumen.

"Resume:

"I claim as my invention my system for reparation and recharge of asphalt roadways, presenting as distinctive characteristics the points following:

"1st. The softening of the upper surface of the asphalt layer at the part to be repaired, and the removal of such upper surface by means of a toothed scraper which striates the part remaining.

"2d. Recharging, by the addition upon the surface thus softened, of an asphalt layer of convenient thickness, which is stamped by the usual means.

"3d. The movable furnace which I have combined to such end, according to the conditions described and represented."

The similarity, if not identity, of the patents is manifest, and it would seem unnecessary to enlarge upon their resemblance. They are both methods of repairing asphalt roadways; they both apply heat to the spot to be repaired; the old material is removed in the Crochet patent; in the Perkins patent it is reduced to the state in which it was originally laid, then agitated and mixed with new material. But this agitation and mixing of old and new material is not necessary to the method. It may be advisable to do or not to do, a witness testified. But further, the Perkins patent calls for a heating of the surrounding edges of the spot to be repaired, to make continuity between the spot repaired and the surrounding pavement. The Crochet patent has not this detail in words, but it is clearly implied. Describing the prior art, the Crochet patent says: " . . . the operator generally delimits with a pick the part which is to be replaced and takes therefrom the asphalt; but it is rare that this operation has not for consequence the starting of the adjacent portions which are sound, swelling them up in such wise that at the end of a little while it is necessary to report them in their turn." His method, he says, "surpresses such inconveniences," and the repeated passing of the heating apparatus over the pavement has the effect that the new coat forms with the old "a thickness without break in continuity, and it does not at all impair the neighboring portions." Surely, considering the method of this patent alone, it did not require the exercise of invention to pass to or conceive the Perkins method. Besides, that conception had the aid of other publications. In some of them the application of heat is mentioned as necessary in the original construction of asphalt pavements and also in their repair. In a work entitled "Asphalt, its Origin, its Preparation and its Application," by Leon Malo, published in Paris in 1888, the repair of pavements after excavations and deteriorations was described. In making excavations two precautions were recommended, and the second consisted, the author said—

"In heating the edge rims of the asphalted bed which limit (*i. e.*, define) the whole trench before pouring in the hot powder destined to repair the part lacking."

And again, as to deteriorations:

"The wheels of vehicles encounter the disintegrated parts, digging there a hole which—if it be not promptly repaired—finishes by deepening itself as far as the beton. The sole remedy for this evil is to remove all the bad part and replace it by new asphalt, taking care therein to heat the edges of the sound portion so as to obtain a perfect soldering, as we have explained a little further back."

The counsel claim, however, that the Perkins "method is characterized by a new and useful way of applying heat to the pavement, to wit, by sending a flame blast into direct contact with the pavement surface," and that the Crochet patent had no suggestion of that, and besides the Crochet process applied to *compressed asphalt roadways*, which was a different asphalt roadway than that to which the Perkins method was intended to apply. And upon the difference in the asphalt, counsel has dwelt long and interestingly, but the argument finally comes to a dependence upon the fact that the compressed asphalt of the Crochet patent disintegrates and crumbles, and if overheated becomes as inert as sand; whereas the asphalt of the Perkins patent melts under the action of heat and has "a peculiar property or 'susceptibility,' namely, that when its surface is subjected constantly to a lively heat, the exposed material automatically covers itself with a thin, protecting shield, and merely melts and softens beneath that shield." The answer to the contentions is that given by the Circuit Court of Appeals; the patent does not support them. Before the time of either patent the world knew that heat disintegrated some things and melted others, and we cannot concede invention to the thought that that might be true of different kinds of asphalt. Indeed, even in the face of the grave testimony contained in this record given by unquestionably expert men, we find it also difficult to concede that it was an exertion of invention to apply heat to the edges of an excavation to make a bond between the old and the new material. To devise an instrument to do that well and quickly might be invention, and that Perkins achieved by his apparatus patent. To allow him more under the facts of this record would be to give him a monopoly of the machine and of that which the machine can do. And this is an answer to the contention based upon the peculiar property of American asphalt to interpose a shield against a blasting heat to protect itself from destruction, a virtue in American asphalt, no doubt. If it is a virtue resulting from a peculiar application of heat, there is nothing in the record to show that Perkins was aware of it. He certainly did not reveal it in the specifications of his patent nor describe it as part of his method. His apparatus, it is true, is provided with burners by which blasts of heat may be projected against the pavement. But his method

is independent of his apparatus. He says in his patent: "The heating of the surface may be accomplished in various ways and by means of various forms of apparatus, and while I have herein shown but one form for accomplishing the result, yet I would have it understood that I do not limit myself to any particular form of apparatus for carrying out my invention."

And what is claimed is, as we have seen, "the subjecting the spot to be repaired to heat."

In further answer to the contention we may quote the Circuit Court of Appeals as follows:

"Another objection to the proposed limitation of the claim by making it read 'a blast of heat,' or 'a strong blast of heat,' in lieu of the unqualified word 'heat,' is in the fact that the third claim, which contained the additional words, was withdrawn by the patentee upon a ruling or declaration of the Patent Office that the first and third claims were the same in substance and could not both be permitted to remain in the case. That was not merely a casual expression of opinion by an examiner, but was in effect a requirement that one or the other of the claims be withdrawn, and no reason is perceived for not applying the ordinary rule. Having voluntarily abandoned the claim for a method limited to the use of 'a blast of heat,' the patentee or his assignee may not now insist that a broad claim, containing no suggestion of such intention, shall nevertheless be subjected by construction to the same restriction. This point, in view of the reservation already considered, is unimportant and might be passed, but it is to be observed that if the third claim was withdrawn by mistake, a correction should have been sought in the Patent Office, either by a surrender and reissue, or possibly by a new application. It is not within the rightful power of the courts to enlarge or restrict the scope of patents which by mistake were issued in terms too narrow or too broad to cover the invention, however manifest the fact and extent of the mistake may be shown to have been."

Decree affirmed.

True copy.

Test:

Clerk Supreme Court, U. S.